TETRA TECH

May 30, 2019

Mr. Steve Spurlin
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, 11th Floor
Atlanta, GA 30303

Subject: **Nashville International Airport Gas Line**
Nashville, Davidson County, Tennessee
Contract Number (No.) EP-S4-14-03
TDD No. TT-03-034

Dear Mr. Spurlin:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) submits this letter report summarizing emergency response activities conducted April 9 through 19, 2019, at the Nashville International Airport Gas Line release site in Nashville, Davidson County, Tennessee. This report includes three enclosures:

- Enclosure 1 contains figures, including a site location map.
- Enclosure 2 contains a summary table of air monitoring data.
- Enclosure 3 contains a copy of the Tetra Tech START logbook notes.

EMERGENCY RESPONSE ACTIVITIES

On April 9, 2019, the National Response Center (NRC) notified the U.S. Environmental Protection Agency Region 4 (EPA) that while conducting drilling operations the Tennessee Department of Transportation struck and ruptured a 12-inch gasoline transmission pipeline at the Nashville International Airportairport dischargingreleasing an unknown quantity of product (NRC report #1242283). The breach occurred at 36.137048 degrees north and -86.660321 degrees west (see Figure 1 in Enclosure 1).

Colonial shut the line down quickly after receiving notification of a potential line strike at 1105 hours local time on April 9, 2019. Colonial, their contractors, and the Nashville Airport Authority's on-site contractor first focused on excavating the immediate area around the pipeline rupture and establishing containment measures. Boom and absorbent pads were deployed at six downstream locations in McCrory creek, approximately 200 yards apart. Vacuum trucks were utilized to collect pooled fuel and portable tanks for waste liquid storage were staged onsite. Personnel were assigned to monitor the creek and areas between the creek and the ruptured line.

As more heavy equipment arrived onsite, the drainage ditch located along the access road, to the north of the rupture, was excavated to below original grade by several inches, where possible. All excavations were affected by the extremely variable size of the fill material in the hillside. Underflow dams were installed at the end of the drainage ditch excavation and just prior to where drainage from the hillside was routed to enter McCrory Creek, southeast of the rupture. (see Figure 3 in Enclosure 1). Several exploratory trenches and holes were excavated to target the release pathway. No product was initial observed in the trenches. No sheen or odor was discovered along the creek.

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On April 9, 2019, tThe EPA and Tetra Tech START mobilized to the site and integrated into Unified Command. On-Scene Coordinator (OSC) Steve Spurlin reported to the Incident Command PostCenter and OSC Jordan Garrard assisted with field operations. The initial report from Colonial PipelineColonial Pipeline (Colonial), the pipeline owner, indicated that approximately 750 barrels (31,5005,000 gallons) of gasoline was dischargedreleased into a field surrounding located at the end of an airport runwaya runway at the airport. Once Colonial was able to evaluate the specific damage to the pipeline, the final estimated of the volume discharged was 340 barrels (14,280 gallons). The gasoline flowed eastward overland and in existing drainage features towards McCrory Creek, a tributary to the Cumberland River. Upon arrival on-scene, EPA observed pooled fuel within the drainage features leading to McCrory Creek. A multi-acre area of surface soils sloping towards McCrory Creek was impacted by the fuel. The area is Karst, which is a landscape under lane with eroded limestone which creates fissures and sinkholes allowing fuel to migrate unpredictably.

The EPA tasked Tetra Tech START to assess air quality due to the gasoline volatilizing from the ruptured line. The area surrounding the release included a long-term parking lot approximately 100 meters to the west of the ruptured line, undeveloped land to the north, McCrory Creek to the east, and an airport runwayrport runway to the south (see Figure 2 in Enclosure 1). EPA tasked Tetra Tech START, on April 10, to set up air monitoring locations to assess the site and potential impacts to surrounding areas, focusing on the nearest receptor area. Tetra Tech START was also tasked to provide intermittent air monitoring support in the work zonesto the excavation personnel to help confirm the success of personnel protective measures.

The secondary concern was migration of the dischargedreleased product into the down gradient surface water body, McCrory Creek. McCrory creek is located approximately nine hundred feet to the east of the discharge point. McCrory Creek flows approximately three miles to the Stones River. The Stones River flows approximately five miles to the Cumberland River. Personnel were assigned to review the creek and areas between the creek and ruptured line. Boom and absorbent pads were deployed at six downstream locations in McCrory creek, approximately 200 yards apart, and vacuum trucks and storage tanks were staged onsite.

On April 10, Tetra Tech START set up an AreaRae Pro air monitoring station between the site and the public parking lot to the west (see Figure 2 in Enclosure 1, Unit 9). The AreaRae Pro was configured with sensors for detection of oxygen, carbon monoxide, hydrogen sulfide, lower explosive limit (LEL), volatile organic compounds (VOCs), and gamma radiation. Tetra Tech START monitored the station from the site staging area via a computer using ProRae Guardian and VIPER telemetry. Due to VOC readings that ranged from 3 to 13 parts per million (ppm), three additional air monitoring stations were set up (see Figure 2 in Enclosure 1). All four stations sampled continuously until the evening of April 11.

Table 1 summarizes air monitoring data captured by VIPER. The data was divided into three 36-hour periods for the report. The VOC detections ranged from X to X ppm. There was one elevated, sustained detection over night from April 10 to April 11. This reading was

Colonial Pipeline, the responsible party (RP) and their contractors, first focused on excavation of the immediate area around the pipeline rupture. As more heavy equipment arrived onsite, the drainage ditch located along the access road, adjacent to the north of the rupture, was excavated to below original grade by several inches, where possible. All excavations were affected by the extremely variable size of the fill material in the hillside. Underflow dams were also installed at the end of the drainage ditch excavation

~~and just prior to where drainage from the hillside was routed to enter McCrory Creek, southeast of the rupture. (see Figure 2 in Enclosure 1). Several exploratory trenches and holes were excavated to target the release pathway, no product was located in the trenches. No sheen or smell was discovered along the creek.~~

On April 11, OSC Garrard discovered a location where product had emerged from the bank and began to discharge into McCrory Creek~~the creek~~. Tetra Tech START used a MultiRae Pro to continuously monitor for VOCs and an UltraRae to spot check benzene concentrations to assist Colonial ~~the RP~~ in their worker safety air monitoring during certain tasks. The START and Colonial air monitoring detections in the work zones were consistent for benzene. ~~All times START was present and benzene was detected, the RP equipment responded with a similar detection.~~ Benzene detections were seen as high as nine ppm but most detections ranged from three to five ppm ~~were seen in the three to five ppm range.~~ All detections in work zones were very short duration. When benzene was detected, the workers would stop and exit the work area. ~~RP would first remove personnel from the task near the benzene detections.~~ If the benzene levels remained elevated, the level of respiratory protection was increased and~~detections returned, increased~~ engineering controls were implemented.

To address the release to the creek, ~~the RP~~Colonial placed additional boom and absorbent pads over the discharging product until the vacuum trucks were positioned. Hand augers were used to delineate the product's below ground pathway to the creek. An interception trench was constructed up gradient of the discovered seeps along the creek bank. Once completed, a vacuum truck was used to remove the collected product from the trench. (see Figure 3 in Enclosure 1).

On April 12, the perimeter air monitoring was discontinued, as the pipeline was no longer releasing product and the damaged line~~breach~~ was temporarily repaired. ~~The~~ RP~~Colonial~~ discovered a second seep of product into the creek, approximately eight feet north of the first observed seep and expanded the trench to better intercept the pathway to the second seep. Product was observed collecting in the excavated drainage ditch along the access road, the vacuum truck~~RP~~ was used ~~a vacuum truck~~ to remove product from the ditch. ~~The RP~~Colonial Pipeline began excavating the surface soil along affected area of the hillside, an area approximately 150 feet wide, 300 feet long, and 0.5 feet deep~~0.5 deep~~ to remove affected soil. (see Figure 3 in Enclosure 1).

On April 13, ~~the RP~~Colonial ~~identified~~ an additional seep located approximately 20 feet upstream of the first observed seep. Colonial~~The RP contractor~~ placed soft boom around the seep and utilized a vacuum truck to remove the product. Additionally, ~~the RP excavated~~ exploratory holes were dug along the northwestern and western portion of the hillside, nearer the airport~~port~~ to investigate other potential product pathways. Fill material composition prevented hand auger use. Colonial~~The RP~~ continued excavating affected surface soil from the hillside and using vacuum trucks for removing product collected in the trench~~, using vacuum trucks.~~ As the excavation proceeded, Colonial ~~The RP~~ began to back fill and stabilize ~~of~~ the excavated surface soil area to minimize sediment erosion.

On April 14, a portion of the boom in the creek failed due to higher water levels and a faster flow rate from an ~~the~~ overnight rain event. Most of the downstream boom was still in place, and no sheen was observed~~seen~~ downstream off the airport property ~~eseaping~~. ~~The RP~~Colonial continued excavating and backfilling the affected surface soil area on the hillside and utilizing vacuum trucks to remove~~removing~~ product collected in the trench~~, using vacuum trucks.~~

On April 15, the Unified Command conducted a meeting to discuss future actions at the Site. In addition to EPA, Colonial, TDOT, and the Nashville Airport, the Tennessee Department of Environment & Conservation (TDEC) Water and Remediation programs were in attendance. Colonial presented the

current status of the incident, committed to continue to conduct necessary actions to address the discharge, and opened dialogue with TDEC regarding future activities related to water quality and remediation. OSC Spurlin determined that Colonial had adequate resources in place to address the discharge and demobilized from the Site. OSC Spurlin utilized a local START to periodically monitor the ongoing work for the next week.

From April 15 to 19, ~~the RP~~Colonial ~~-~~continued to remove product from the trench and continued excavation and backfill on the affected hill near the rupture site. The hillside excavation encompassed a second area as shown on Figure 3 in Enclosure 1.

As of April 19, ~~In total,~~ an estimated 3,616 cubic yards of soil were stockpiled for removal, and 39,831 gallons of liquid were collected from the recovery trench; 837 gallons of the recovered liquid was estimated to be fuel. It is anticipated that additional soils and waste liquids will be generated as Colonial continues to recovery fuel from existing collection points. Colonial has installed multiple additional collection trenches and points to improve the efficiency of the collection of the fuel and continues to maintain and monitor the creek boom (See Figure X). In coordination with TDEC, Colonial has implemented a surface water quality sampling program.

Colonial has agreed to continue the applicable removal efforts and response operations until there is no longer a discharge or threat of discharge to the surface waters.

~~EPA and~~ Tetra Tech START demobilized on April 19, 2019.

If you have any questions or need additional copies of this report, please contact Leslie Shaver at (678) 775-3093 or [HYPERLINK "mailto:leslie.shaver@tetratech.com"].

Sincerely,

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START IV Project Manager

Andrew F. Johnson
START IV Program Manager

Enclosures (3)

cc: Katrina Jones, EPA Project Officer
Angel Reed, START IV Document Control Coordinator

ENCLOSURE 1

FIGURES

(2 Pages)

ENCLOSURE 2

TABLES

(3 pages)

ENCLOSURE 3

LOGBOOK NOTES

(14 Pages)